

# PATENT SPECIFICATION



352,155

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*Date of filing Complete Specification:* January 28, 1957

*Application Date:* February 10, 1956.

*No.* 4289/56

*Complete Specification Published:* October 26, 1960

**Index at Acceptance:**—Classes 6(2), E1; 20(1), D; 44, BE4X; and 99(1), R.

**International Classification:**—A01g. F06b.

## COMPLETE SPECIFICATION

### DRAWINGS ATTACHED

#### Means for Connecting Rods in Spaced Angular Relationship

We, E. J. WOODMAN & SONS (PINNER) LIMITED, a British company of 19, High Street, Pinner, Middlesex, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to means for connecting rods in spaced angular relationship. It has particular but not exclusive application to the formation of horticultural cloches or shelters for plants from bamboo or other rods which are readily available.

From one aspect, the invention provides means for connecting rods in spaced angular relationship comprising a substantially spherical ball of rubber, or other resilient material, having three holes passing there-through mutually at right angles, these holes being adapted to receive the rods, in such manner that the rods are closely embraced by the rubber.

From another aspect the invention provides means for connecting rods in spaced angular relationship comprising a substantially spherical rubber ball through which pass at least three holes, the axes of which are at right angles to one another and which do not intersect, these holes being adapted to receive the rods, in such manner that the rods are closely embraced by the rubber.

The balls may be used to support a plurality of rods in spaced angular relationship to form a structure which may be covered by a bag of transparent plastic so as to form a horticultural cloche or may be used to support netting to serve as a shelter for fruit bushes or other plants.

Other parts of the invention are embodied in the preferred form which will now be described in some detail by way of

example with reference to the accompanying drawings in which:—

Fig. 1 is a perspective view of the improved means for connecting rods in angular relation, with rods indicated in dotted lines.

Fig. 2 is a perspective view of a cloche embodying the device of Fig. 1 and

Fig. 3 is a view of a fruit shelter embodying the device.

As shown in Fig. 1, a rubber ball 1 of spherical shape is bored with a number of holes 2 of which at least 3 (2a, 2b and 2c) have their axes at right angles to one another. The holes pass right through the ball and are preferably arranged so that they do not intersect one another. The holes may be cylindrical or may be tapered inwardly towards the centre of the rubber ball and then outwardly.

When this device is used to form a horticultural cloche as shown in Fig. 2 two of the rubber balls 1 are used. A bamboo rod 3 is pushed into one hole of each of the two rubber balls and this in use forms the apex of the cloche. Bamboo rods 4 are also pushed into two remaining holes of each ball so as to form legs at right angles to one another.

A bag 8 formed from a transparent plastic such as thin sheet polythene is used to enclose the frame.

The device may also be used as shown in Fig. 3 to form, with bamboo or other rods, a structure for supporting string net or the like to surround and protect fruit bushes. In this form, four bamboo rods 5 are connected to form a square, by rubber balls 1 into which adjacent rods are pushed at right angles. Vertical bamboo rods 6 are pushed into a remaining hole of each block and the other ends of these may be pressed into the ground. A net 7 is then draped over.

the structure thus formed and serves to protect fruit bushes or other plants enclosed within the structure. Alternatively a base to the structure may be formed by using 5 rubber balls at the bottom of the vertical rods in a manner similar to that in which they are used at the top.

In all cases the resilience of the material of the ball causes it to squeeze the 10 rods and hold them firmly against accidental withdrawal.

It will be understood that the invention is not restricted to the details of the preferred form described by way of example 15 which may be modified without departure from the scope of the claims, for example, more than three holes may be provided in certain cases.

#### WHAT WE CLAIM IS:—

20 1. Means for connecting rods in spaced angular relationship comprising a substantially spherical ball of rubber, or other resilient material, having three holes passing therethrough mutually at right 25 angles, these holes being adapted to receive the rods in such manner that the rods are closely embraced by the rubber.

2. Means for connecting rods in spaced 30 angular relationship comprising a substantially spherical rubber ball through

which pass at least three holes, the axes of which are at right angles to one another and which do not intersect, these holes being adapted to receive the rods in such manner that the rods are closely embraced 35 by the rubber.

3. Means for connecting rods according to either of the preceding claims in which the holes are tapered inwardly towards the centre of the block. 40

4. Means for connecting rods in spaced angular relationship substantially as described with reference to Fig. 1 of the accompanying drawings.

5. A structure comprising a plurality of 45 rods supported in spaced angular relation by means according to any one of the preceding claims.

6. A garden cloche substantially as described with reference to Fig. 2 of the 50 accompanying drawings.

7. A shelter for plants substantially as described with reference to Fig. 3 of the accompanying drawings.

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#### PROVISIONAL SPECIFICATION

#### Means for Connecting Rods in Spaced Angular Relationship

55 We, E. J. WOODMAN & SONS (PINNER) LIMITED, a British company of 19, High Street, Pinner, Middlesex, do hereby declare this invention to be described in the following statement:—

60 This invention relates to means for connecting rods or the like in spaced angular relationship. It has particular application to the formation of horticultural cloches or shelters for plants from bamboo or other 65 rods which are readily available but it also has other applications.

From one aspect, the invention provides means for connecting rods or the like in spaced angular relationship comprising a 70 block of rubber, or similar resilient material, having a number of holes provided therein which are adapted to receive and closely embrace the rods. These holes may be blind or may pass completely through the block. 75 Preferably three holes are provided which are mutually at right angles to one another.

From another aspect the invention provides means for connecting rods in spaced angular relationship comprising a rubber 85 block through which pass at least three holes, the axes of which are at right angles to one another and which do not intersect.

From yet another aspect the invention provides a structure comprising a plurality 80 of rods supported in spaced angular relationship by blocks of rubber or similar material

into or through which the rods pass and by which the rods are held frictionally. Such a structure may be covered by a bag of transparent plastic material so as to form a 90 horticultural cloche or may be used to support netting or the like to serve as a shelter for fruit bushes or the equivalent.

Other parts of the invention are embodied in the preferred form which will now be described in some detail by way of example. 95

In this form, a rubber ball of spherical shape is bored with three holes having their axes at right angles to one another. The holes are arranged so that they do not intersect one another. The holes may be cylindrical or may be tapered inwardly towards the centre and then outwardly. 100

When this device is used to form a horticultural cloche two of the rubber balls are used. A bamboo is pushed into one hole of each of the two rubber balls and this in use forms the apex of the cloche. Bamboo rods are also pushed into the two remaining holes of each ball so as to form legs at right 105 angles to one another, the legs at each end being parallel.

A bag formed from a transparent plastic material such as thin sheet polythene is used to enclose the frame. 115

The device may also be used to form, with bamboos or other rods, a structure for supporting curtain net or the like to sur-

round and protect fruit bushes. In this form, four bamboo rods are connected to form a square, by rubber balls into which adjacent rods are pushed at right angles. 5 Vertical bamboo rods are pushed into the remaining hole of each block and the other ends of these may be pressed into the ground. A net is then draped over the structure thus formed and serves to protect 10 fruit bushes or the like enclosed within the structure. Alternatively a base to the structure may be formed by using rubber balls at the bottom of the vertical rods in a manner similar to that in which they are 15 used at the top.

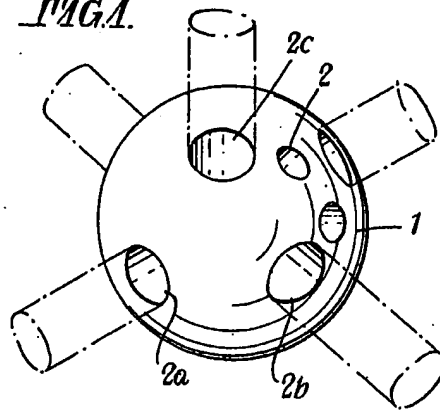
In some cases the holes in the rubber balls may be blind, that is they may not pass completely through the ball, but it is preferred to have at least one hole passing 20 right through the ball. In all cases, the re-

silience of the material causes it to squeeze the rods and hold them firmly against accidental withdrawal.

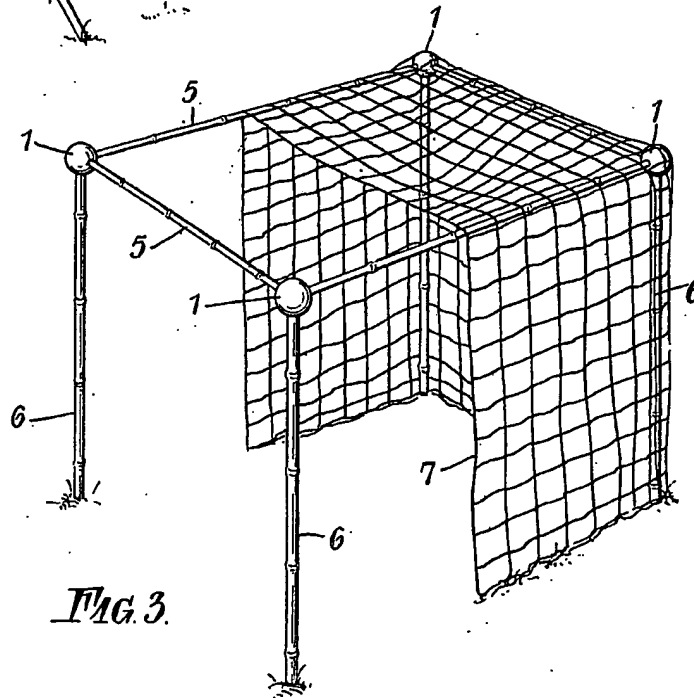
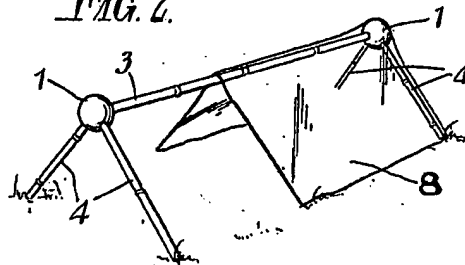
It will be understood that the invention is not restricted to the details of the preferred form described by way of example 25 which may be modified without departure from the broad idea underlying them. For example the holes in the blocks may not be at right angles to one another though it 30 is preferred that one hole should be at right angles to the plane containing the axes of the other two. More than three holes may be provided in certain cases.

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*FIG. 1.*



*FIG. 2.*



*FIG. 3.*